REMARKS

Applicants respectfully request the Examiner's reconsideration of the present application. No claims have been cancelled. Claims 10-12, 22, 23 and 28 have been amended. No new claims have been added. Therefore, claims 1-28 are presented for examination.

Information Disclosure Statement

The Examiner has stated that the Information Disclosure Statement (IDS) mailed October 4, 2002 fails to comply with the provisions of 37 C.F.R. § 1.97-1.98 and MPEP §609 because the authors of the last two references are missing. Applicants respectfully submit that no author is known for the references respectively entitled "Using MMX™ Instructions in a Fast iDCT Algorithm for MPEG Decoding" and "Using Streamlined SIMD Extensions in a Fast DCT Algorithm for MPEG Encoding." Accordingly, no author was listed on the IDS. As indicated by 37 C.F.R. § 1.98(b)(5) and MPEP §609, "each publication listed in an information disclosure statement must be identified by publisher, author (if any), title, relevant pages of the publication, date, and place of publication." (37 C.F.R. § 1.98(b)(5), emphasis added). An IDS identifying "NO AUTHOR" for the above references is submitted herewith. Accordingly, it is respectfully requested that the above references be considered as to their merits.

Claim Objections

The Examiner has objected to claims 10-12, 22-23 and 28 because of informalities. Applicants respectfully submit that the Examiner's objections have been

addressed by amendments made to the claims. Therefore, Applicants respectfully request the withdrawal of the claim objections.

Rejections Under 35 U.S.C. §102

Thuyen Le

The Examiner has rejected claims 1-5, 12-17 and 24-27 under 35 U.S.C. §102(b), as being anticipated by Thuyen Le et al., "A New Flexible Architecture for Variable Length DC Targeting Shape-Adaptive Transform," ("Thuyen Le"). Applicants respectfully submit, however, that the present claims are not anticipated by Thuyen Le.

Thuyen Le discloses a 1D DCT architecture which employs a Canonical-Signed-Digit serial multiplication to reduce hardware resources. In Figure 1 of Thuyen Le, a block diagram of the derived architecture is shown. Thuyen Le discloses that:

> "The generation of $d_N(k)$ is performed according to a given N and k which can be done by an adder/subtractor and some glue logic. The switch in the middle of the architecture is a non-blocking network to implement any possible input-output mapping as specified by $P_{k,N}$. In the Cosine Factor Multiplication Block (CFMB), the multiplication of the input with selected cosine factors given by $S_{k,N} \cdot$ F takes place. The sum of all the CFMBs and a possible correcture term are added and scaled by $\sqrt{2/N}$. Scalability to more or other lengths is preserved by just adding more CFMBs, extending the switch matrix and the pairwise addition/subtraction module at the input." (Thuyen Le, Figure 1; page 1950, line 45 to page 1951, line 7, emphasis added).

Independent claims 1 and 13 include the limitation of "wherein said multiplication operations within said [A] are paired." Additionally, independent claim 25 includes the limitation of "wherein multiplication operations and addition operations within said n-

point DCT and said n-point IDCT are paired." Applicants respectfully submit that Thuyen Le does not disclose these limitations.

The Examiner has referenced page 1951, lines 3-7 of Thuyen Le as disclosing the claimed limitations. However, Thuyen Le is directed to a "pairwise addition/subtraction module." (Thuyen Le, p. 1951, ll. 3-7, emphasis added). Pairwise addition/subtraction as disclosed by Thuyen Le is not equivalent to paired multiplication operations as claimed. Thus, Thuyen Le does not disclose the limitations of independent claims 1, 13 and 25. Accordingly, it is respectfully submitted that claims 1, 13 and 25 and claims 2-5, 12, 14-17, 24, 26 and 27 that depend from them, are not anticipated by Thuyen Le. Therefore, Applicants respectfully request the withdrawal of the rejection of the claims.

Rejections Under 35 U.S.C. §103(a)

Thuyen Le in view of Huang

Claims 6-8, and 18-20 stand rejected under 35 U.S.C. §103(a) as being obvious over Thuyen Le in view of Huang, U.S. Patent No. 5,610,849 ("Huang"). Applicants respectfully submit that the present claims are patentable over the combination of Thuyen Le and Huang.

Claims 6-8 depend from claim 1, and claims 18-20 depend from claim 13. As discussed above, Thuyen Le does not teach or suggest the limitation of "wherein said multiplication operations within said [A] are paired," as recited in claims 1 and 13. Applicants respectfully submit that Huang also does not teach or suggest the missing elements. Huang discloses a 2-D DCT/IDCT circuit consisting of two 1-D processors,

which performs two successive 1-D DCT/IDCT processes to achieve a 2-D transformation. (Huang, Figure 1, col. 1, ll. 42-50). However, Huang does not teach or suggest paired multiplication operations, as claimed. Therefore, the combination of Thuyen Le and Huang does not teach or suggest the limitations of claim 1 or claim 13. Accordingly, Applicants respectfully submit that claims 6-8 and 18-20 are not rendered obvious by the combination of Thuyen Le and Huang, and respectfully request the withdrawal of the rejection of the claims.

Thuyen Le in view of Dulong

Claims 9-11, 21-23, and 28 stand rejected under 35 U.S.C. §103(a) as being obvious over Thuyen Le in view of Dulong et al., U.S. Patent No. 5,983,257 ("Dulong"). Applicants respectfully submit that the present claims are patentable over the combination of Thuyen Le and Dulong.

Claims 9-11 depend from claim 1, claims 21-23 depend from claim 13, and claim 28 depends from claim 25. As discussed above, Thuyen Le does not teach or suggest each and every limitation of independent claims 1, 13 and 25.

Applicants respectfully submit that Dulong is disqualified as prior art under 35 U.S.C. §103(c) because of the common ownership of the patent and the present application. Because Thuyen Le does not teach or suggest paired multiplication operations as claimed, Applicants respectfully request the withdrawal of the rejection of claims 9-11, 21-23, and 28 under 35 U.S.C. §103(a).

Conclusion

Applicant respectfully submits that in view of the amendments and discussion set forth herein, the applicable rejections have been overcome and the pending claims are in condition for allowance.

If the Examiner determines the prompt allowance of the claims could be facilitated by a telephone conference, the Examiner is invited to contact Scott Heileson at (408) 720-8300.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicants hereby request such extension.

Respectfully submitted,

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